NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

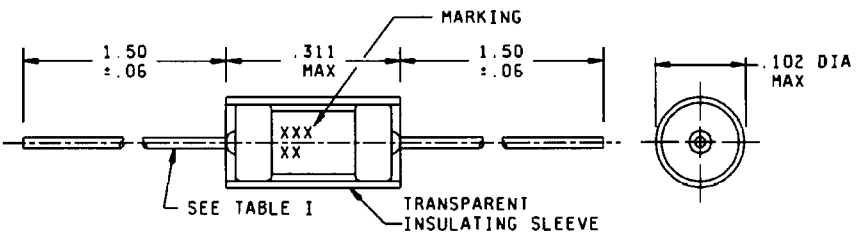
INCH-POUND

MIL-PRF-23419/4F
17 August 1989
SUPERSEDING
MIL-F-23419/4E
1 August 1986

PERFORMANCE SPECIFICATION SHEET

FUSE, CARTRIDGE, INSTRUMENT TYPE,
STYLE FM04 (NONINDICATING)

The requiremet for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-F-23419.



Inches	mm
.06	1.52
.102	2.59
.311	7.90
1.50	38.1

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 1. Style FM04 fuses.

Ⓕ denotes change

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Applicable fuseholder: Grayhill type 2-42, miniature test clip (or equivalent). For 7, 10, and 15 ampere fuses use Grayhill pushpost number 29YY2126-0 or equivalent.

Case material: Ceramic or glass.

(F) Terminals:
Materials: Caps, 90/10, commercial bronze; leads, copper.
Finish: Caps, silver or bright alloy plate; leads solder coated.
Strength: 5 pounds along terminal axis.

Current rating, nominal: See table I.

Characteristic: See table I.

Voltage rating: See table I.

Current carrying capacity: 100 percent at +25°C; 110 percent at -55°C; 80 percent at +125°C. The temperature of the case, body, or terminals shall, at no point, rise more than +70°C above the ambient air temperature. For 10 and 15 ampere fuses the maximum temperature rise shall be +85°C.

Resistance: See table I. Cold resistance is measured at 10 percent or less of rated current.

Overload interrupt: Percentage of nominal rating, interrupt time -55°C through +125°C, 200 percent in 0 to 5 seconds; 300 percent in 0 to 0.1 second. Interrupt time for 15 ampere fuse shall be 10 seconds maximum at 200 percent of rated current and .3 second maximum at 300 percent of rated current.

Short circuit interrupt: 300 amperes at maximum voltage dc, minimum insulation resistance 10,000 ohms.

(F) Shock: Method I of MIL-F-23419.

Thermal shock: Method 107, test condition B, MIL-STD-202.

(F) Extent of qualification: Qualification may be extended to style FM04 fuses to those qualified for style FM08 fuses.

(F) Solderability: Fuses shall be tested in accordance with MIL-F-23419.

(F) Resistance to soldering heat: Fuses shall be tested in accordance with MIL-F-23419.

Marking: Fuses shall be marked with the manufacturer's name or trademark and current rating only.

Ⓕ TABLE I. Type designations, electrical parameters, and lead dimensions.

Type designation				Maximum cold resistance (ohms)	Lead diameter	
Style	Characteristic	Maximum voltage	Current rating (amperes)		Inches (+.002)	mm (+.05)
FM04	A	125V	1/16A	9.100	.025	.64
FM04	A	125V	1/8A	2.700	.025	.64
FM04	A	125V	1/4A	.960	.025	.64
FM04	A	125V	3/8A	.560	.025	.64
FM04	A	125V	1/2A	.365	.025	.64
FM04	A	125V	3/4A	.215	.025	.64
FM04	A	125V	1A	.165	.025	.64
FM04	A	125V	1-1/2A	.105	.025	.64
FM04	A	125V	2A	.072	.025	.64
FM04	A	125V	3A	.047	.025	.64
FM04	A	125V	4A	.029	.025	.64
FM04	A	125V	5A	.019	.025	.64
FM04	A	125V	7A	.013	.025	.64
FM04	A	125V	10A	.008	.025	.64
FM04	A	32V	15A	.0053	.032	.82

Qualification inspection:

Inspection routine. Group II samples shall be as shown in table II below.

TABLE II. Group II samples.

Inspection	Number of sample fuses
Group II	16
Terminal strength	4
Overload interrupt	
200% at -55°C	4
200% at +85°C	4
300% at -55°C	4
300% at +85°C	4
Insulation resistance	16

The number of group III samples for qualification (or first article) testing shall consist of four sample fuses of each of the current ratings as shown in table III. Short circuit interrupt tests shall be conducted at the direct current voltage indicated, and the fuses shall be capable of withstanding a minimum short circuit current as shown in table III. Insulation resistance test shall be as specified in MIL-F-23419.

TABLE III. Short circuit tests.

Fuse type	Current rating	Short circuit current	DC type voltage
FM04	10A	300A	125
FM04	15A	300A	32

Supersession: The superseding items include the requirements of the superseded items. The existing stocks of superseded items may be used. When exhausted, the superseding items shall be used (see table IV).

Ⓕ TABLE IV. Cross-reference.

Superseding type designation	Superseded numbers in accordance with MIL-F-23419/4B 18 November 1970	Superseded numbers in accordance with MIL-F-23419/4A 24 June 1968	Superseded numbers in accordance with MIL-F-23419/4 19 December 1966
FM04A125V1/16A			
FM04A125V1/8A	FM04125V1/8A	FM04-125V-1/8A	FM04-1/8A
FM04A125V1/4A	FM04125V1/4A	FM04-125V-1/4A	FM04-1/4A
FM04A125V3/8A	FM04125V3/8A	FM04-125V-3/8A	FM04-3/8A
FM04A125V1/2A	FM04125V1/2A	FM04-125V-1/2A	FM04-1/2A
FM04A125V3/4A	FM04125V3/4A	FM04-125V-3/4A	FM04-3/4A
FM04A125V1A	FM04125V1A	FM04-125V-1A	FM04-1A
FM04A125V1-1/2A	FM04125V1-1/2A	FM04-125V-1-1/2A	FM04-1-1/2A2A
FM04A125V2A	FM04125V2A	FM04-125V-2A	FM04-2A
FM04A125V3A	FM04125V3A	FM04-125V-3A	FM04-3A
FM04A125V4A	FM04125V4A	FM04-125V-4A	FM04-4A
FM04A125V5A	FM04125V5A	FM04-125V-5A	FM04-5A
FM04A125V7A			
FM04A125V10A			
FM04A125V15A			

CONCLUDING MATERIAL

Custodians:
Army - ER
Navy - EC
Air Force - 85

Review activities:
Army - AR, ER, MI
Navy - AS
Air Force - 11, 99
DLA - ES
NS

User activities:
Army - AL, ME
Navy - MC, OS
Air Force - 19

Preparing activity:
Navy - EC

Agent:
DLA - ES

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